A STUDY ON PLASMA ADIPONECTIN LEVEL AND ITS CORRELATION WITH LIPID PROFILE IN NEWLY DIAGNOSED HYPOTHYROID AND HYPERTHYROID INDIVIDUALS

ABSTRACT

Introduction:

Thyroid disorders are associated with changes in intermediary metabolism affecting body weight, insulin sensitivity and lipid metabolism. Adiponectin is an adipokine secreted specifically by adipocytes and is involved in regulation of metabolic processes. This study was conducted with an aim to explore the relationship between thyroid function, lipid profile and adiponectin.

Materials & Methods:

The study included 105 subjects among whom 35 were hypothyroid, 35 were hyperthyroid and 35 were non obese healthy controls. Newly diagnosed hypothyroid and hyperthyroid subjects were recruited. Recent FT_3, FT_4, TSH values (ECLIA method) were obtained from the subjects. BMI was calculated. Plasma adiponectin was measured by ELISA and values expressed in µg/mL. fasting plasma glucose , serum TGL, total cholesterol and HDL were measured by spectrophotometric method.

Results:

Thyroid disorders were found to be more prevalent in the females. Hypothyroid subjects had significantly elevated blood lipid levels ($p<0.001$) and hyperthyroid subjects had significantly lowered blood lipid levels ($p<0.001$) than the control group. Mean Adiponectin levels of hyperthyroid subjects was significantly greater than the control group ($p <0.001$) and it correlated positively with FT_3 and FT_4 and negatively with TSH values ($p<0.01$). Mean adiponectin level of hypothyroid subjects was lower than control group ($p<0.01$) . it was also found that adiponectin level correlated negatively with BMI. Adiponectin significantly correlated negatively with blood lipid

levels($p<0.01$).Plasma glucose of hyperthyroid group was higher than hypothyroid and control group with p-value of <0.01.

Conclusion:

The above alterations suggest that thyroid disorders are associated with changes in lipid profile and adiponectin levels. Since both thyroid hormones and adipokines interact in regulation of metabolism, the metabolic abnormalities associated with thyroid dysfunction might partly be mediated through adiponectin which warrants further studies.

Keywords:

Adiponectin, Thyroid Dysfunction, Lipid Profile, Insulin Sensitivity